PONY

ICT

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6th Primary

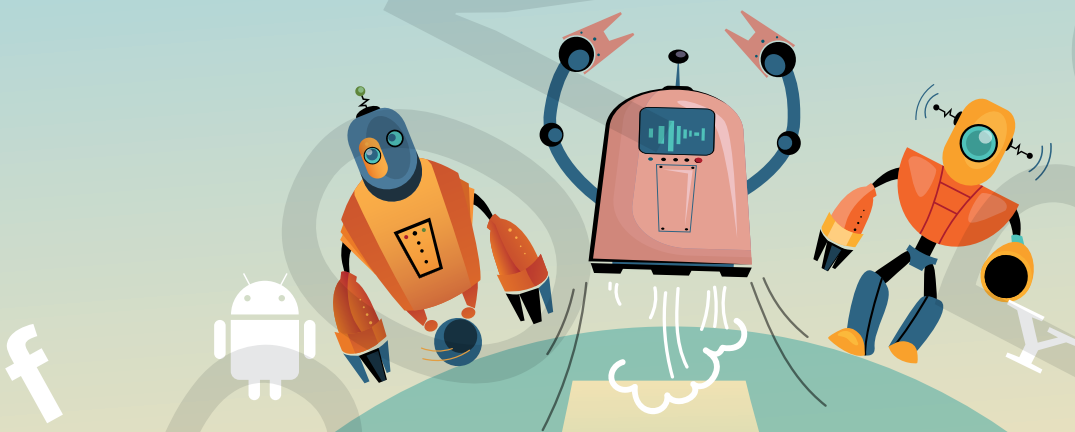**First Term**

October Revision

Lesson 2

>> **Networks:** They are groups of devices or things that are connected to each other for a common purpose.

>> **Types of networks:**

1. Wired networks: They use <u>cables</u> that are plugged into ports.

2. Wireless networks: They connect devices without wiring using Wi-Fi.

>> **Network devices:**

1. MODEM:

a. Connects a local area <u>network (LAN)</u> to the internet.

b. Converts (transforms) the signal from the ISP into a digital signal.

c. Connects users to the internet

2. SWITCHES:

– They send data to a specific device over a network, so it makes connections easier and faster.

– Switches are intelligent devices.

>> **Artificial Intelligence (AI):**

– A comprehensive term for computer applications that perform complex tasks that simulate the thinking and performance of the human element.

– AI also works to imitate sounds when provided with the tone of voice of an actual human being.

>> **Examples:**

– Writing an article on a topic.

– Inquiring about historical events and their sequence.

Lesson 3

▸▸ **Virtual reality:** It is a virtual 3-D environment that allows users to explore and interact with the surroundings, as if it were reality.

▸▸ To experience VR, users wear a VR headset that blocks out the real world and immerse the user in another world.

▸▸ **Examples on VR:**

1. It can take you to a museum thousands of miles away or to a historical site.
2. In classrooms, VR allows close study of enlarged insects and atoms.

▸▸ **Augmented reality (AR):** It combines the real world with a virtual world by adding images using computers.

– It shows a 3-D model of what the real world looks like.
– AR helps students become active participants in learning and makes learning more memorable.

▸▸ **Examples on AR:**

1. In math class, students can project 3-D images like cubes or cylinders onto a flat surface using their smartphones
2. Visually impaired people can use AR to see their family members up close.

▸▸ **Artificial intelligence (AI):** It is the ability of a computer, to think, learn, and deduce.

– Computer learns by analyzing the available examples.

▸▸ **Example on AI:**

– It predicts the word you will write from words you have written previously.
– AI is used to unlock your phone with facial recognition.
– Disabled individuals can use virtual assistants powered by AI to accomplish everyday tasks, such as making phone calls and navigating their computer.

Lesson 4

» **Cutting-edge technology:** Is the latest and most advanced version of a service or product.

  – AI, AR, and VR are Cutting-edge technologies.

» **Assistive technology** helps people of determination.

» **Examples of Assistive technology:**

  1. Screen magnification software.
  2. Hearing aids
  3. Programs that turns speech-to-text and text-to-speech.

» **Smartgloves:** They empower deaf people to translate their signs in real time to spoken or text output.

» **User experiences:** It is how to use the product, interact with it, and evaluate their experiences.

  – It can be positive or negative.

» **User experience** is interlinked with the development of products and services.

» The goal of cutting-edge assistive technology is to improve someone's independence and to be included in society.

7 factors that affect UX: Usable, Findable, Credible, Accessible, Desirable, Valuable, Useful
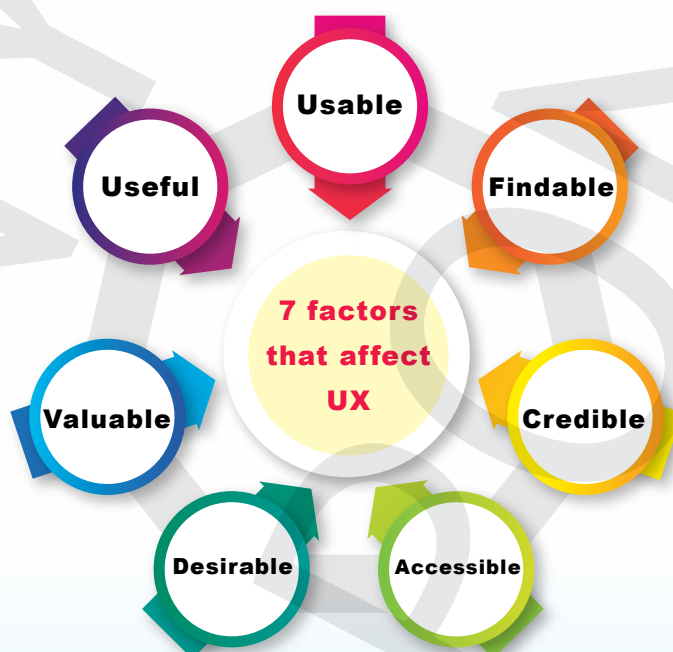
Lesson 5

» Copy, paste, and cut are some of the most commonly used word processing commands

» **Search engines** help people search Internet websites based on the keywords and phrases.

» They are user-friendly, very fast, and often give many results.

» **Databases**: They are collections of information which are typically stored in a computer system and can be accessed for free through a school.

» **A database** is a good place to search for information from journals, newspapers, and reference books.

» **EKB** is an example of a general database, the results will be credible and accurate.

» **Library catalog**: It is a database which includes all the items owned by a library. **such as**, the catalog of the Library of Alexandria.

» When you search any database:

   ❶ Use a keyword search.

   ❷ Review the results.

   ❸ You can limit a search by using fields like author, journal title and dates.

Lesson 7

» **Operating system (OS)**: It is the software that manages a computer's functions, such as memory, drives, printers, and other devices.

» OS manages accessible devices, such as screen readers and magnifiers.

» OS runs a computer's software and hardware.

» OS acts as a translator; it translates user communication to computer languages.

» Most computers come pre-loaded with an operating system.

➤➤ **Computer operating systems**:

Microsoft Windows	MacOS
• On most computers worldwide.	• It runs on Apple computers.

➤➤ **Mobile operating systems**:

Android	Apple iOS
• Used on open-source software.	• Used on the iPhone and iPad. • Closed-source operating system.

➤➤ **Open-source software:** means a person can change and read the programming code.

➤➤ **Closed-source software:** it can't be seen or changed by the public.

➤➤ Both Android and iOS perform the same basic functions, such as messaging, web access, video chat and touch function

➤➤ **Cutting-edge operating systems:**

❶ **The Robot Operating System (ROS)**: is an open-source software for building robot applications.

❷ Operating systems powering self-driving cars

➤➤ **Programming languages**: Instructions to a computer are given in codes.

➤➤ Programming languages have evolved from simple machine language (binary) to high-level human-like languages.

➤➤ Programming languages are usually open-source.

➤➤ HTML is used to create website.

➤➤ HTML is easy to learn, to make change and compatible with all the major web browsers.